

CHRYSLER CORP.

Dodge
Plymouth

DESCRIPTION

All models, with the exception of Motor Home "M" models, use collapsible type steering columns. All columns have integral ignition switch and locking device. Tilt wheel features are available in all models. Transmission shift linkage is integral on all models with the exception of floor shift models.

REMOVAL & INSTALLATION

ALL (EXCEPT "M" MODELS)

Removal — 1) Disconnect battery negative cable. On vehicles equipped with column shift, disconnect link rod(s) by prying rod out of grommet in shift lever. Remove steering shaft lower coupling to worm shaft roll pin.

NOTE — Steering shaft may be equipped with either flexible coupling or a "Pot" coupling.

2) Disconnect wiring connectors at column jacket. Remove steering wheel center pad and horn switch (if equipped). Use tool (C-3428B) to remove steering wheel.

NOTE — Do not bump or hammer on steering shaft to remove steering wheel.

3) Remove turn signal lever. Remove floor plate-to-floor pan attaching screws. Remove cluster bezel and panel lower reinforcement to expose steering column bracket. If equipped with automatic transmission, disconnect shift indicator pointer cable from shift housing.

4) Remove nuts attaching steering column bracket to instrument panel support. Carefully remove lower coupling from steering gear worm shaft, then remove column assembly out through passenger compartment.

Installation — 1) Install ground clip on left capsule slot. Plastic capsules should be preassembled in bracket slot. Insert column through floor pan opening. With front wheels straight ahead and splines on wormshaft and coupling aligned, engage coupling and install roll pin.

CAUTION — Do not apply end load to steering shaft.

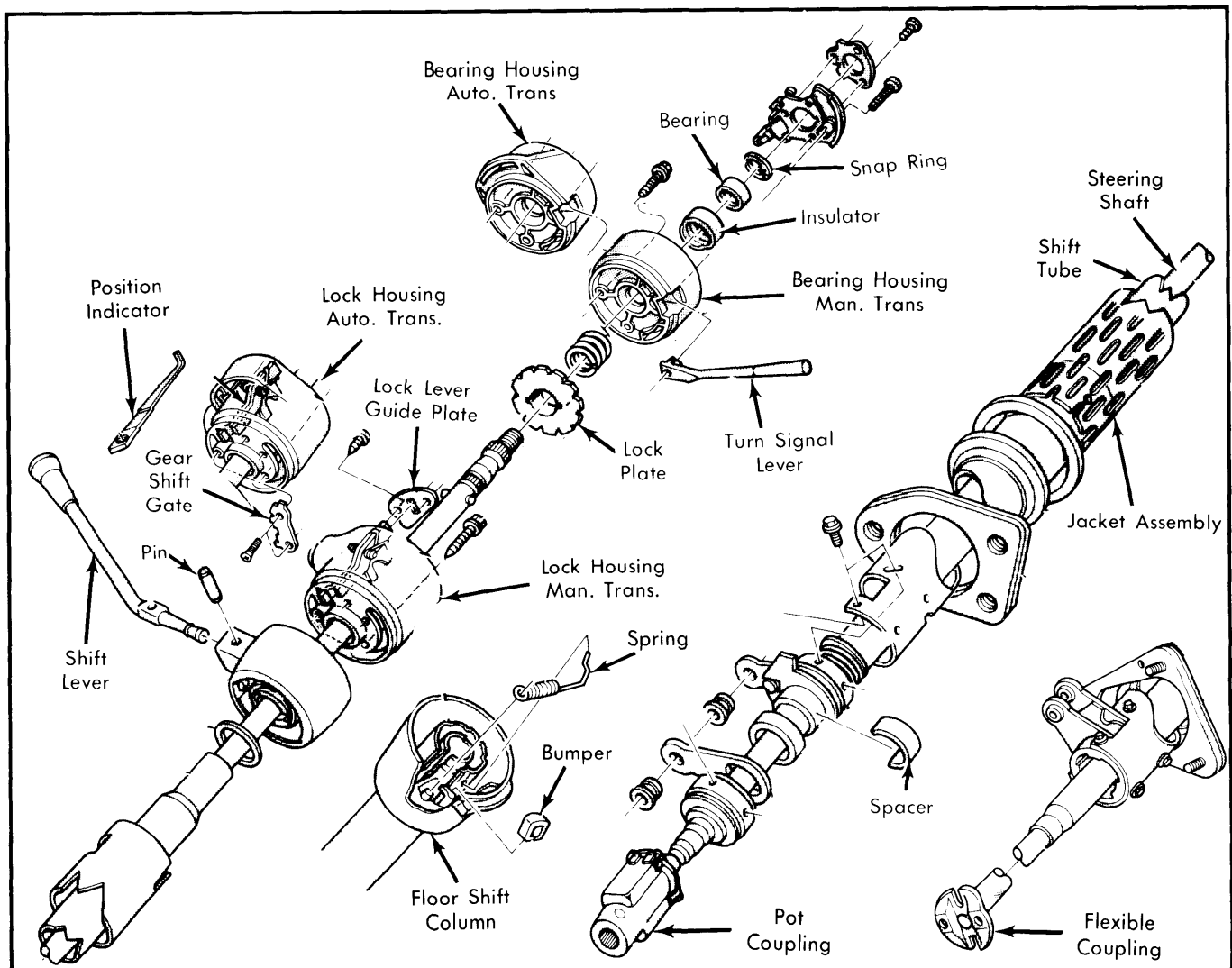


Fig. 1 Exploded View of Steering Columns

Steering Columns

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2) Hold column assembly with bracket slots on mounting studs. Loosely install two upper bracket washers and nuts. Be sure both capsules are fully seated in slots in support bracket and tighten nuts to specification.

3) Position floor plate over floor pan opening, centering it around column, then install retaining bolts. Place steering wheel on shaft with splines aligned. Install nut and tighten to specifications. **CAUTION** — Do not drive wheel onto shaft, draw it down with retaining nut.

4) Install horn switch and connect wiring connector at column jacket. Connect shift links into new grommets.

NOTE — Whenever column is removed or loosened, linkage adjustment must be checked. See Shift Linkage Adjustment in TRANSMISSION Section.

5) If equipped with automatic transmission, connect gear shift indicator pointer cable to indicator bracket. Slowly move shift lever from "1" (Low) to "P" (Park) pausing briefly at each position. If necessary, bend indicator bracket to align pointer with each position. Reinstall panel lower reinforcement and cluster bezel. Connect battery and test horn and lights.

"M" MODELS

Removal — 1) Disconnect battery ground cable. Remove "Pot" coupling roll pin. Disconnect electrical wiring connector at steering column jacket. Remove horn pad assembly by removing two retaining screws from behind steering wheel.

2) Remove steering wheel retaining nut and washer. Install suitable wheel puller (C-3428B) and remove steering wheel. **CAUTION** — Use proper tool to remove wheel; force or hammering will result in damage to wheel or steering column. Remove four floor plate retaining bolts. Remove column-to-instrument panel retaining bracket and lift column into interior.

Installation — 1) With floor plate and boot on column, slide column through opening in floor from inside. Position column to center steering shaft bearing blocks in coupling. Tighten clamp nut.

2) Install steering column upper bracket bolts and tighten finger tight. Center shaft in column with wheels in straight ahead position. Center boot and floor plate and tighten floor plate mounting screws.

3) Tighten steering column bracket bolts and place steering wheel on steering shaft with master splines aligned. Install retaining nut and washer and tighten. **CAUTION** — Use nut to draw wheel onto shaft. Do not drive wheel onto shaft. Install horn switch parts previously removed from steering wheel. Connect horn switch wire. Connect wiring connectors at steering column jacket. Connect battery ground cable.

NOTE — On tilt wheel models, horn wire must be in 10 o'clock position for cancelling cam to be in correct position.

FLOOR SHIFT MODELS

The steering column with a floor mounted gear shift is basically the same as previously described. Standard columns and service procedures are identical except as described below.

- Lower steering shaft bearing is mounted in an aluminum support.

- Shift housing has a spring attached between it and column jacket. This keeps housing rotated counterclockwise against rubber bumper. Spring and bumpers are easily removed by hand.

OVERHAUL

ALL (EXCEPT "M" & TILT WHEEL MODELS)

Disassembly — 1) Pry out wiring trough retainers and lift off trough. New retainers may be required for reassembly. Use masking tape to protect paint and a deep socket to back up housing and drive retaining roll pin out with a punch to remove shift lever. Secure column in vise by clamping at column bracket. Do not distort column.

2) Remove turn signal switch and upper bearing retaining screws. Remove retainer and lift switch upward out of way. Remove retaining screw and lift ignition key lamp assembly out of way.

3) Remove snap ring from upper end of steering shaft. Remove three screws holding bearing housing-to-lock housing.

NOTE — These screws must be removed before steering shaft removal.

4) Remove bearing housing from shaft. Remove coil spring and lock plate from shaft. Remove shaft through lower end of column.

5) To remove lock housing, remove screw and lift out buzzer switch. Remove two retaining screws and lock lever guide plate. This will expose lock cylinder release hole. Place cylinder in "LOCK" position and remove key.

6) Insert a small diameter screwdriver or similar tool into lock cylinder release hole. Push in to release spring-loaded lock retainer. At same time, pull lock cylinder out of housing bore. Remove three retaining screws and ignition switch assembly.

7) Grasp lock lever and spring assembly and pull straight out of housing. Remove four lock housing-to-column jacket hex head retaining screws and remove housing from jacket.

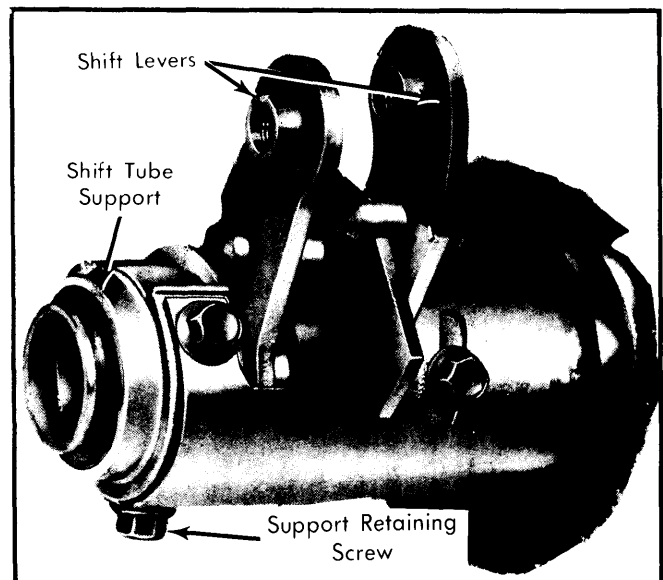


Fig. 2 Shift Tube Support Retaining Screws

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8) Loosen shift tube set screw in shaft housing. Remove shift tube through lower end of jacket. If equipped with manual transmission, remove three bearing support screws at lower end of jacket and three adjustable bushing screws from cam slots in jacket. Remove tube and lever assembly through lower end of jacket. Remove floor plate and grommet from jacket.

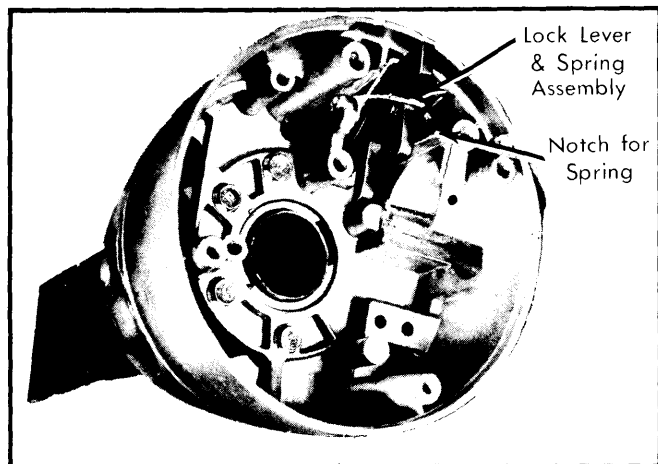


Fig. 3 Lock Lever and Spring Assembly Installed in Housing

9) To disassemble flexible coupling, remove four bolts and two cross straps. Remove flexible coupling. Pot coupling is removed by prying cover tangs out of coupling body and lift seal and cover from body. Drive dowel pin down into coupling and discard. Pull body off shaft and shoe assembly.

Reassembly — 1) During reassembly, coat all friction surfaces with multi-purpose grease NLGI Grade 2, Part Number 2525035 (or equivalent). Clamp column in vise so that both ends of column are accessible. Check column tube-to-mandrel rivets for tightness. If replacement is necessary, use $\frac{1}{8}$ " diameter by $\frac{1}{4}$ " long ($\frac{1}{8}$ " grip) aluminum pop rivets.

CAUTION — Never use steel rivets as rivets must shear upon impact.

2) On automatic transmission models, install floor plate and grommet on lower end of column jacket. Position gearshift housing on column jacket. Install dust seal and shift tube support on shift tube. Slide shift tube into jacket. Guide key on upper end of tube into slot in gearshift housing. Position crossover load spring and shift lever in gear shift housing and tap rivet pin into place. Install shift lever gate on lock housing.

3) If equipped, feed gear selector dial lamp wire through hole behind transmission dial on lock housing and route wire through space between housing and jacket. Secure lamp assembly and install gear selector lens assembly. Place shift lever in mid position, seat lock housing on top of jacket and indexing key in housing with slot in jacket. Install housing-to-jacket screws and tighten alternately.

4) If equipped with manual transmission, install spring washer on lower hub of gearshift housing so that the flats of curled washer surface is against housing hub. Position gearshift housing on the column jacket. Turn bushing on shift tube so holes in bushing are aligned with adjustment slots in column jacket. Aligning key on tube with keyway in housing, slide shift tube and lever assembly through jacket and into gearshift housing.

Start bushing retainer screws through slots in jacket, but do not tighten.

5) Install rubber spacer on lower end of shift tube and metal spacer over crossover blade so it rests against the 2nd and direct shift lever. Install low and reverse lever, then install support and bearing assembly. Install and tighten three retaining screws. Rotate bushing with screws so all play at shift levers and spacer is eliminated, but no binding occurs. With bushing in this position tighten three bushing-to-jacket screws.

6) Place screwdriver blade between 2nd and direct shift lever and crossover blade, so it will be held in neutral position halfway between the two shift levers. Position gearshift lever in housing so ball end engages hole in shift tube key. Align and install retaining roll pin. Assemble two lock levers, lock lever spring and pin. Install assembly in lock housing. Make sure lock lever spring leg is firmly in place in lock casting notch.

7) Install lock lever guide plate and retaining screws. Position ignition switch to center detent "OFF" position and hand lever in "PARK". Feed wires down through space between housing and jacket. Position switch in housing and tighten mounting screws. Feed buzzer switch wires behind wiring post and down through space between housing and jacket. Position switch in housing and tighten mounting screws. To install ignition lock, turn key to "LOCK" position and remove key. This will cause buzzer operating lever to retract in cylinder. Now insert cylinder into housing far enough to contact switch actuator. Insert key, press inward and rotate cylinder. When parts align, cylinder will move inward and spring loaded retainer will snap into place, locking cylinder into housing.

8) Install bearing support (floor shift), bearing and spring on steering shaft and insert steering shaft into column assembly. Install lock plate and new groove pin on steering shaft. Make sure pin is centered. Install steering column shaft lock plate sleeve over shaft lock plate pin and against lock plate. Install bearing lower snap ring on steering shaft.

9) Place rubber insulator with grounding staple over column upper bearing and install assembly into bearing housing bore. Use soap solution or rubber lubricant to ease installation. Install turn signal switch in bearing housing, feeding wires through opening in housing. Feed ignition key lamp wires through opening in housing at this time. Install retaining plate over switch and tighten screws. Install turn signal lever or turn signal speed control lever on turn signal switch. If speed control, feed wires through opening provided in bearing housing. Position housing assembly on steering shaft, feeding wires through space between housing and jacket. Install upper snap ring on shaft.

10) Install bearing housing-to-lock housing screws and tighten. Install wiring trough in place over wires being careful not to pinch wires between trough and jacket. Install new retainers if required.

"M" MODELS (WITHOUT TILT WHEEL)

Disassembly — 1) Clamp column in vise. Remove screw and remove directional signal lever from column. Remove screws retaining directional signal and upper bearing. Remove retainer and lift switch upward and out of the way. Remove snap ring from upper end of steering shaft. Remove three screws which hold bearing housing to lock housing.

CAUTION — These screws must be removed before steering shaft removal.

Steering Columns

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2) Install suitable steering shaft removal tool (C-4044), and press shaft out of bearing. Remove tool, and remove bearing housing from shaft. Remove bearing lower snap ring from shaft. Remove shaft through lower end of column. Place lock cylinder in "LOCK" position and remove key. Insert small screwdriver or similar tool into lock cylinder release hole and push in to release spring-loaded lock retainer. Pull lock cylinder out of housing bore at same time and remove ignition switch assembly. Remove four lock housing-to-column jacket hex head retaining screws, and remove both housing and spring washer from jacket.

Reassembly - 1) Install boot and floor plate on lower end of column jacket. Install spring washer and both housings. Position ignition switch in center detent "OFF" position. Feed wires through space between housing and jacket. Position switch in housing and tighten three mounting screws. With lock cylinder in "LOCK" position and key removed, insert cylinder into lock housing. Press cylinder into place until contact is made with pin on ignition switch cam. Insert key into cylinder

and rotate lock until slot in cylinder plate lines up with pin. Press key cylinder in further until snap is heard.

2) Insert steering shaft assembly into column. Install bearing lower snap ring on steering shaft. Place rubber insulator with ground staple over column upper bearing and install assembly into bearing housing bore. Use a soap solution or rubber lubricant to ease installation. Install directional signal switch in bearing housing, feeding wires through opening in housing. Install retainer plate over switch and install and tighten screws. Install signal lever and tighten screw.

3) Position bearing housing assembly on column jacket, feeding wires through space between lower housing and jacket. When installing housing, steering shaft must be drawn, not pushed, through bearing, using bearing inner race as a reaction member, or damage to lock housing components or bearings could result. Install housing on steering shaft, using suitable tool (C-3879). Remove tool and install upper snap ring on shaft. Install three bearing housing-to-lock housing screws and tighten.

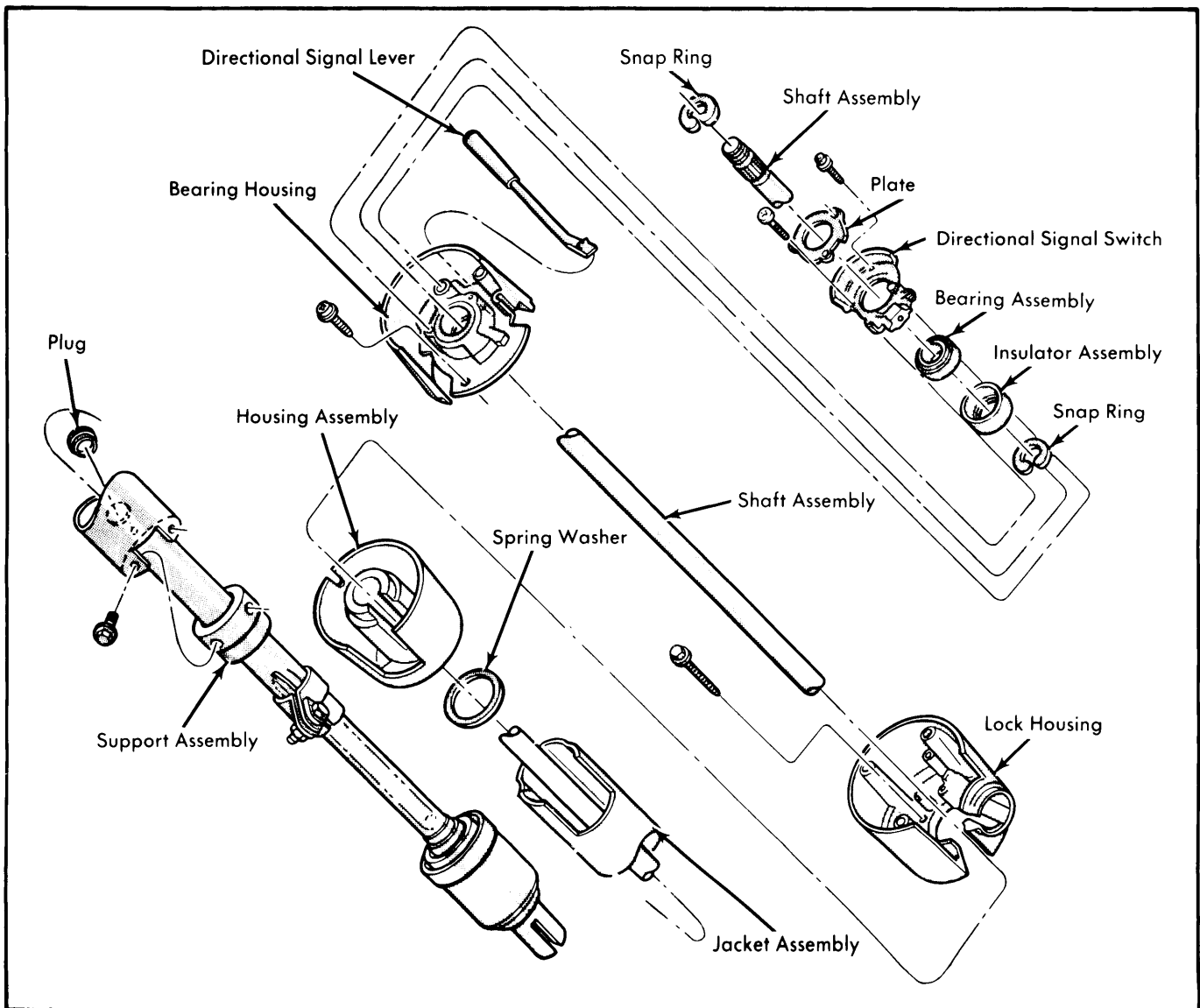


Fig. 4 Disassembled Steering Column Assembly ("M" Models)

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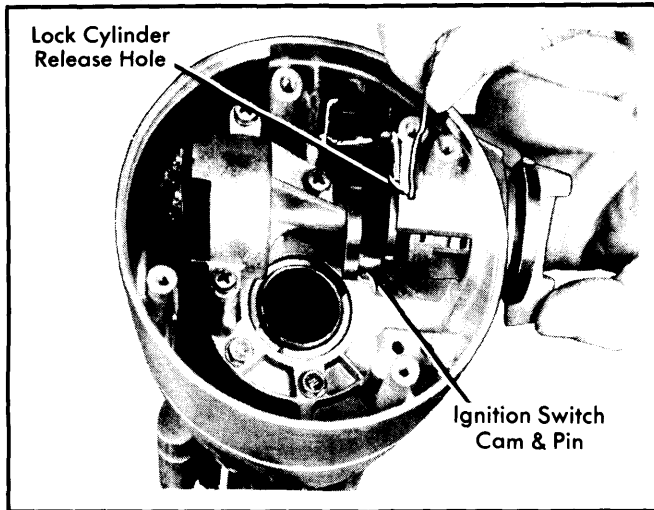


Fig 5 Removing Lock Cylinder From Steering Column

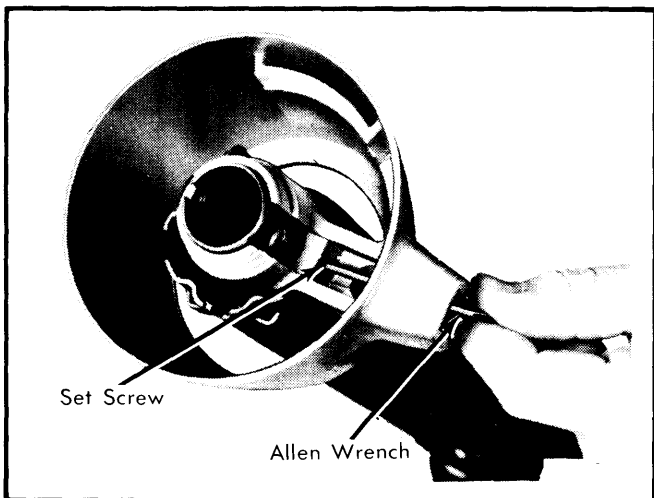


Fig 6 Shift Tube Set Screw

MODELS WITH TILT WHEEL

Disassembly – 1) Remove steering wheel and column, mount column in vise. Remove double coupling assembly from lower end of steering shaft. Remove tilt lever and turn signal lever or speed control. Push hazard warning knob in and unscrew to remove. Remove ignition key light assembly.

2) Move tilt mechanism to full down tilt and remove spring clip from rear of housing, remove indicator. Withdraw pointer from shift housing. Depress lock plate and pry retaining ring out of groove with screwdriver. Remove lock plate cancelling cam and upper bearing spring.

3) Remove three turn signal switch screws, place shift bowl in low (1) position. Tie up wires and connectors to prevent snagging, remove switch and wiring. To remove lock cylinder, place in "LOCK" position. Insert a thin tool into slot next to switch mounting screw boss (right hand slot) and depress spring latch at bottom of slot to remove lock.

4) Remove buzzer switch out of housing using a stiff piece of wire, bend one end into a hook shape. Insert hooked end into exposed loop of wedge spring, pull straight to remove spring and switch. Remove housing cover. Install tilt release lever and place column in full "UP" position.

CAUTION – Use extreme care in removing wedge spring. If dropped in column, complete disassembly of column is required to recover spring.

5) Remove tilt spring retainer using a phillips screwdriver. Insert screwdriver in opening, press in about $\frac{3}{16}$ " and turn about $\frac{1}{8}$ turn counterclockwise until ears align with grooves in housing and remove spring and guide. Push upper steering shaft in sufficiently to remove steering shaft inner race seat and inner race. Put ignition switch in "ACCESSORY" position, remove ignition switch.

6) Place pivot pin remover (C-4016) over pivot pin, thread small portion of screw into pin. Hold screw in position, turn nut clockwise and remove pivot pin from support. Remove opposite pivot pin. Use tilt release lever to disengage lock shoes. Remove bearing housing by pulling upward to extend rack fully. Move housing to left to disengage rack from actuator, remove actuator assembly.

7) Remove roll pin and coupling assembly from lower end of steering shaft. Remove shaft from upper end of column. Disassemble steering shaft by removing center spheres and anti-lash springs. Remove bolts securing support to lock plate and remove support from end of column jacket. If needed remove attaching screws and shift gate from support.

8) Using screwdriver remove shift tube retaining ring and thrust washer. With a small screwdriver disengage plastic shift tube support from lower end of jacket. Remove shift tube from bowl using tool (C-4120). Insert bushing on end of tool in shift tube and force tube out of bowl.

CAUTION – Do not hammer or pull on shift tube as plastic joint may be sheared.

9) Remove shift tube from jacket at lower end. Remove lock plate by sliding out of jacket notches and tapping down toward hub at 12 o'clock position and under jacket opening. Remove wave washer and bowl from jacket. Remove shift lever spring from bowl by winding spring up with pliers and pulling out.

10) Remove tilt lever opening shield and turn signal lever opening shield from housing. Remove lock bolt spring by removing spring retaining screw and moving spring clockwise. Remove snap ring from sector drive shaft use a small punch to tap drive shaft from sector. Remove drive shaft, sector and bolt. Remove rack and rack spring, also shim if one is used.

11) Using a punch and hammer remove tilt release lever pin. Remove lever and release lever spring. To relieve load on release lever, hold shoes inward and wedge block between top of shoes (over slots) and bearing housing. Remove lock shoe pin with punch and hammer, remove lock shoes and lock shoe springs.

NOTE – Do not remove bearings from housing unless they are to be replaced. Never use old bearings.

Steering Columns

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Reassembly — 1) Install lock shoe springs, lock shoes and shoe pin. Use a rod about .180" diameter to line up shoes. Install spring, release lever and pin. Relieve load on release lever. Install drive shaft, tap sector on shaft for enough to install snap ring. Install rack and spring, block tooth on rack must engage block tooth on sector. Install external tilt release lever, bolt spring and retaining screw.

2) Install shift lever spring in bowl by winding up with pliers and pushing in. Slide bowl into jacket, install wave washer and lock plate. Work lock plate into notches in jacket and carefully install shift tube in lower end of jacket. Align key in tube with keyway in bowl and use tool (C-4119) to pull tube into bowl.

CAUTION — Do not push hard or tap on end of tube.

3) Install support by aligning "V" in support with notch in jacket and install retaining screws. Install lower bearing at end of shift tube. Locate about $\frac{3}{16}$ " inside tube (use suitable lubricant to ease installation). Install centering spheres and anti-lash spring in upper steering shaft and lower steering shaft from same side of spheres that spring ends protrude.

4) Check double coupling assembly that master serration of upper shaft will align with master serration of pot coupling. Place housing in full "UP" position, install guide, tilt spring and tilt spring retainer using screwdriver. Turn retainer clockwise to engage. Install steering shaft in shift tube from upper end.

5) Place ignition switch actuator rod through bowl from bottom and insert slot in support. Extend rack downward from bearing housing, assemble housing over steering shaft and engage rack over end of actuator rod. Install external tilt release lever and holding lock shoes in disengaged position assemble bearing housing over steering shaft until pivot pin holes line up. Install pivot pins.

6) With housing in full "UP" position, install guide, insuring there is grease between guide and peg on support, tilt spring and spring retainer. Using a screwdriver in retainer slot turn retainer clockwise to engage. Install bearing inner race and tilt lever opening shield. Remove tilt release lever, install housing cover and tighten screws.

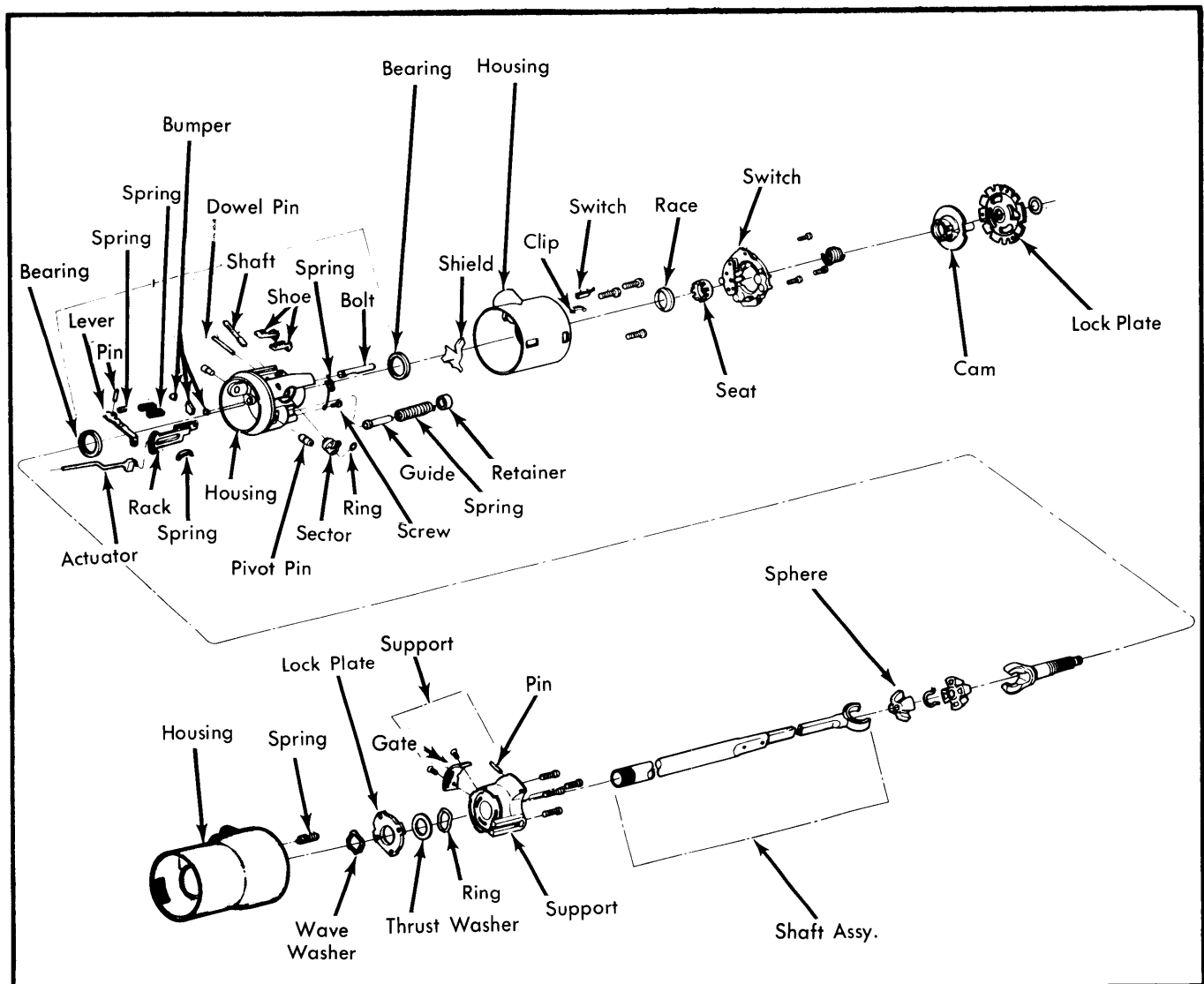


Fig. 7 Exploded View of Tilt Column Upper Half

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7) Assemble buzzer switch to spring clip with formed end of clip under end of switch and spring bowed away from switch on side opposite contact. Push switch and spring into hole in cover to step with contacts toward lock cylinder bore

8) Install signal switch wires and connector. Push hazard warning plunger in, install switch and tighten screws. Install hazard warning knob and pull out. Install canceling cam spring, canceling cam and shift lock plate. Using suitable tool (C-4156) depress shift lock plate and install new retaining ring. Install tilt release lever and turn signal switch lever.

9) To install ignition lock, turn key to "LOCK" position and remove key. Insert cylinder into housing enough to contact switch actuator. Press inward to move switch actuator rod up and down to align parts. When aligned, cylinder will move inward and spring loaded retainer will snap into place.

10) When replacing ignition switch, position key cylinder in "ACCESSORY" detent, then place switch in "ACCESSORY" as follows: Spring loaded position at one end is "START". Move slider to extreme other end, this is "ACCESSORY". Fit actuator rod into slider hole and assemble loosely to column.

11) Push switch lightly down column to remove lash in actuator rod, tighten mounting screws. Do not move switch out of detent. Install wire protector, shift indicator and move tilt mechanism to full "DOWN" position. Insert pointer, place indicator housing and lens assembly into position

12) Insert notch on pointer into slots in back of indicator and install spring clip. Align master splines and install coupling assembly on steering shaft. Drive in retaining roll pin. Install column, steering wheel and road test.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Bearing Housing-to-Lock Housing Screws	2.9
Bracket-to-Column Bolt	10
Bracket Column-to-Bracket Bolt	1.6
Bushing-to-Jacket Screws	5
Column Clamp Stud	9
Column Clamp Stud Nut	16.6
Flexible Coupling Bolts	16.6
Hazard Switch	2
Housing Cover Screws	8.3
Ignition Switch Screws	2.9
Lock Housing-to-Jacket	7.5
Shift Tube Support Screws	5
Steering Wheel Retaining Nut	60
Support Bearing Screws	5
Support Plate Bolts	5
Tilt Release Spring Retaining Screw	2.9
Turn Signal Retaining Plate	2.3
Upper Bracket Nuts	9